

# **ENGINEERING**

## **Department Purpose and Description**

The purpose of the Engineering Department is to provide the necessary basic physical infrastructure needed for the City to exist and thrive and to ensure that all infrastructure facilities built within the City meet engineering standards and conform to State laws and the Municipal Code. Engineering designs, constructs and manages basic amenities such as City streets, roads and parkways, and the City's extensive stormwater and wastewater systems. The department provides an array of direct services to the public including the review and inspection of smaller privately constructed facilities and infrastructure. Through its Traffic Section, the department continually monitors, plans and problem-solves existing and projected traffic conditions throughout the City. Through its Transit Division, the department manages the City's public transportation contract operations. The Engineering Department also provides fiscal management of the City's development impact fee program, community facilities districts, and special assessment district programs.

In order to meet the demands of growth and the continued development activity in the Eastern territories, the department currently has a staff of 88 permanent full time equivalent positions. During fiscal year 2003, the Engineering Department was reorganized into the following sections:

- Administrative Services to include Administration, Fiscal Services, and Special Districts
- Field Services that includes Construction Inspection and NPDES
- Infrastructure Services comprised of Infrastructure Design, Survey and Wastewater Engineering
- Development and Transportation Services that includes Land Development, Permits, Traffic Operations/Engineering, Transportation Planning and Signal/Street Light Maintenance
- Transit

## **Major Accomplishments for Fiscal Year 2003**

The City fully implemented the federally mandated National Pollution Discharge Elimination System (NPDES) program in fiscal year 2003 including our permit compliance, educational outreach, web page, and recycling programs. The first round of industrial and commercial stormwater inspections was completed and will form the basis for establishing future inspection programs. Refinements continue on a monitoring program that will help residents and businesses identify and reduce pollutants entering the San Diego Bay and other local watercourses.

The department oversaw the formation of six new community facilities districts (CFDs) in the Eastern territories during fiscal year 2003. These enable the development community and the City to cost-effectively provide critical infrastructure and well-maintained common areas to residents. Engineering has assumed long-term management of the City's CFDs including monitoring and annual updates.

Engineering also manages the City's Development Impact Fee (DIF) program including the eleven-component Public Facilities DIF. Program management includes standardization of the annual review and update process, the creation of new DIFs, and the management of related payment and credit tracking systems.

During fiscal year 2003, Engineering oversaw construction of the final phases of Olympic Parkway from Oleander Avenue to the Olympic Training Center. The entire 6.5 miles between Interstate 805 and the Olympic Training Center are now open to the traveling public as final landscape enhancement work also nears completion.

Several other major roadways were completed and opened to the public during fiscal year 2003 including La Media Road and Heritage Road from Palomar Street to Olympic Parkway, East Palomar Street along its entirety east of Brandywine Avenue, Proctor Valley Road east of Hunte Parkway, and Hunte Parkway from South Greensview to Olympic Parkway.

With respect to existing streets, the Engineering department is managing the largest street resurfacing program in the history of the City – the Pavement Overlay Program with over \$7 million of pavement rehabilitation work to be completed through 2004 on streets throughout the City. The ongoing rehabilitation program extends the life of City streets by using a computerized pavement management system to prioritize streets with deteriorating pavements, thereby preventing major pavement failures and reducing the need for major street reconstruction.

Major Eastside traffic mitigation projects completed in fiscal year 2003 are relieving congestion for morning and evening commuters. In particular, new "through" traffic lanes and a right-turn only lane have improved flow along East 'H' Street at I-805. Other enhancements at this location are speeding up the flow of public transit buses by allowing them a few seconds to clear the intersection ahead of other traffic. CalTrans plans to build additional freeway ramp lanes along with their ramp-metering project. Staff is working closely with Caltrans to coordinate their project with our improvements and the activation of the ramp meters to coincide with the completion of SR-125.

A federally funded demonstration project replaced old-style fixed traffic signal controls at eleven intersections in the vicinity of East 'H' Street and Otay Lakes Road with a \$750K state-of-the-art adaptive traffic signal control system. The project has improved travel speed by 18%, reduced travel time for motorists and will ultimately improve air quality.

Another major achievement in fiscal year 2003 was the substantial progress made on the last major phases of the Salt Creek Sewer project. This four-phase, 12½ mile main trunk sewer, running from the Olympic Training Center to west of Interstate 5, will serve all proposed development within the Otay Ranch, Eastlake, and Rolling Hills Ranch through build out. Housing projects currently in development are connecting to the system in Summer 2003. The entire project will be substantially completed and operational by October 2003.

With respect to drainage issues, the department embarked on a major program to oversee the replacement or rehabilitation of critical sections of the City's corrugated metal pipe (CMP). This effort will undoubtedly save the City significant dollars by replacing deficient CMP before it fails and causes damage to public and/or private property.

Lastly, the department has worked on many capital improvement projects such as sidewalk improvements, traffic signal modifications, various drainage improvements, sewer construction and rehabilitation, and major and minor street improvements.

## **Major Goals and Challenges for Fiscal Years 2004 and 2005**

Included in the budget is a \$4.7 million capital improvement program for the Montgomery area, funded through the sale of bonds, to construct extensive drainage and street improvements in cooperation with the local residents. To maximize the use of the bond funds, new assessment districts will be formed in which the property owners will pay for only the costs of their own driveway improvements. This cooperative program will provide significant enhancements to the neighborhood. In similar projects, the department continues to work with residents of Quintard Street and Date Street to form assessment districts to pay for the costs of individual driveways, while the City pays for the costs of curbs, gutters, sidewalks, and pavement widening. Residents of the area bounded by Banner, Albany, Montgomery and Zenith have also requested an assessment district to fund the pavement of their alleys.

Major enhancements to two of the City's primary entrance corridors at Interstate 5 are well underway. Both will provide better access and significantly more attractive gateways to the City. The Palomar Street corridor is being widened from four to six lanes for improved traffic flow. The project includes enhanced landscaping, a raised median, cobbled and tiled sidewalks, and undergrounding of unsightly utilities. Similar enhancements are being completed along the '*H*' Street gateway between I-5 and Broadway with new concrete paving, a patterned median, landscaped parkways between the street and sidewalks, new traffic signals, and patterned crosswalks. Construction on both projects is in progress and is scheduled for completion in fiscal year 2004.

The department also intends to continue dealing aggressively with the replacement of deteriorating corrugated metal pipes (CMP) in the City. These drains are typically found in the older portions of the City. Replacing them before they fail should continue to be a top priority.

The department will continue to work with major developers on their master planned communities. In light of the newly adopted Traffic Modeling & Allocation program that was implemented to maintain GMOC traffic thresholds in advance of SR125; it is likely that development related demands on the department will continue at a high level for the foreseeable future.

Other important new development related projects that the department is undertaking are the design of the Wolf Canyon Trunk Sewer and upgrades to the Poggi Canyon Trunk Sewer. Both projects are part of the community master plans and are crucial to the future economic well being of the City.

Funded from five local, state and federal sources, the \$21.8 million Olympic Parkway/Orange Avenue at Interstate 805 interchange project will widen the City street overcrossing to six lanes, widen on and offramps to more quickly clear traffic off surface streets during morning and evening commutes, and will provide merge lanes to improve freeway access and exiting between Orange Avenue/Olympic Parkway and Main Street. The parkway and related

corridors will be landscaped and will include sound walls for the benefit of residents. The eighteen-month construction project is scheduled to begin in late Summer 2003.

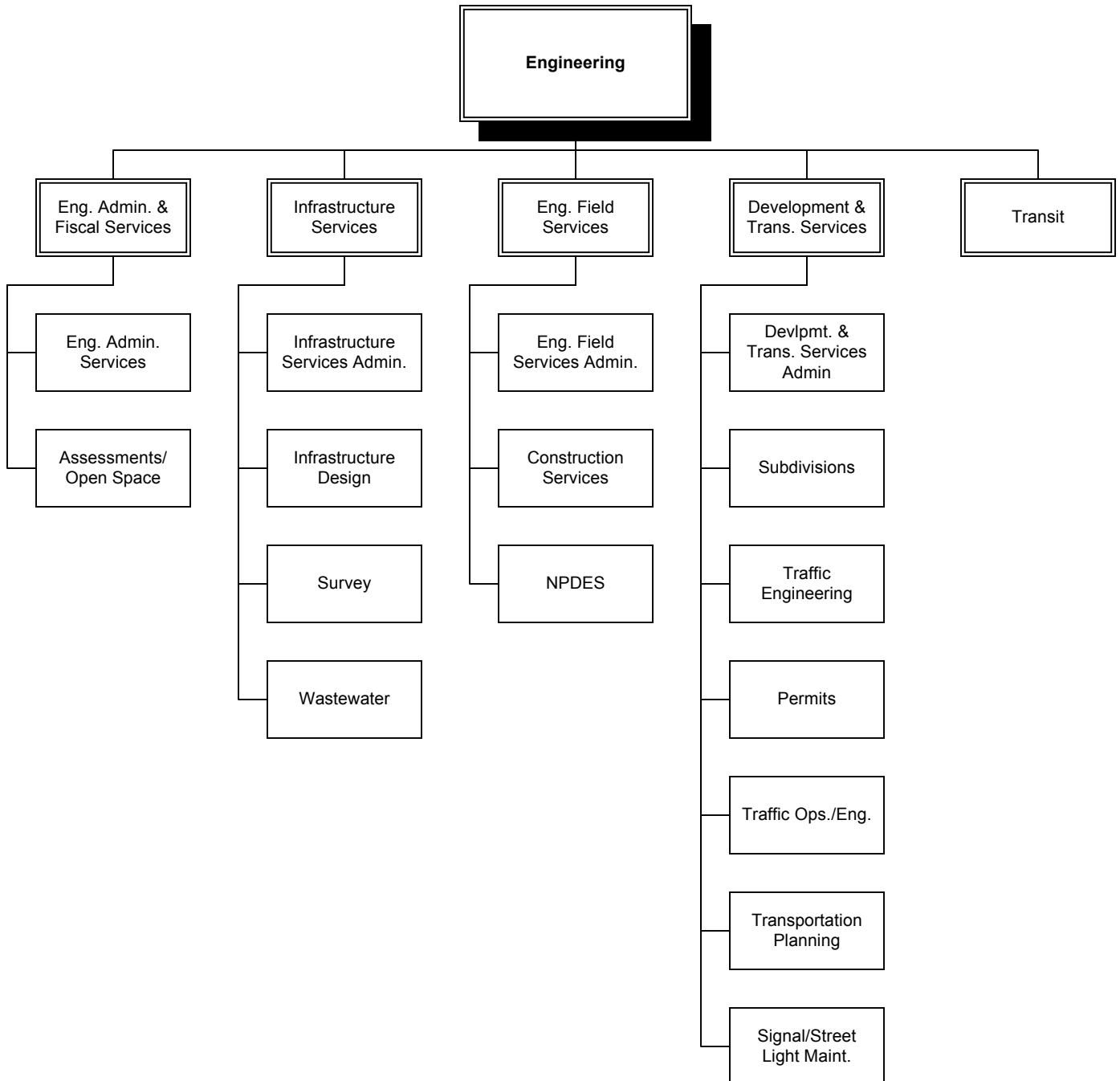
In a related goal, construction starts July 2003 and will be completed before early winter on a project to increase traffic flow and decrease delays from westbound Telegraph Canyon Road onto northbound Interstate 805. The \$2-3 million project will add and reconfigure street lanes and provide necessary improvements to the Canyon Plaza shopping center entrance.

The City is implementing measures to mitigate effects of an anticipated State revenue decrease in Transit program funding. Measures include a fare increase to take effect July 1, 2003, increased route efficiency, improvement of the City's contract service provider's driver and maintenance personnel performance, and improvement of other service levels in order to increase customer retention. To improve citywide mobility, the City will continue to modify and change routes to address new service requests in the Eastern territories. To help protect the City's air quality, plans continue in an effort to replace up to seven older diesel buses with newer, cleaner emission, CNG buses within eighteen months through federal and TDA grant funding.

Finally, a constant challenge will always be to provide the highest level of service to the City and its various departments; as well and most importantly, its residents and businesses. By providing efficient, safe and cost effective infrastructure – roads, sewers, storm drains, sidewalks and new subdivisions – the Engineering Department always has significant challenges to meet.

# ENGINEERING

## ORGANIZATION CHART



# ENGINEERING 13000

## EXPENDITURES

	FY 2002 ACTUAL	FY 2003 BUDGET	FY 2004 ADOPTED	FY 2005 ADOPTED
Personnel Services	0	7,585,333	8,568,829	9,137,171
Supplies and Services	0	1,768,290	1,627,525	1,644,501
Other Expenses	0	37,150	37,150	37,150
<b>EXPENDITURE TOTALS</b>	<b>\$0</b>	<b>\$9,390,773</b>	<b>\$10,233,504</b>	<b>\$10,818,822</b>

## Expenditures by Division

DIVISION	FY 2002 ACTUAL	FY 2003 BUDGET	FY 2004 ADOPTED	FY 2005 ADOPTED
<b>13100</b> Engineering Administration	0	261,371	71,498	73,712
<b>13200</b> Eng Admin & Fiscal Services	0	579,703	682,088	721,360
<b>13300</b> Infrastructure Services	0	1,951,202	2,162,514	2,303,991
<b>13500</b> Engineering Field Services	0	1,834,902	2,266,292	2,411,699
<b>13700</b> Devlpmnt & Transptn Services	0	4,557,688	4,817,590	5,058,625
<b>13900</b> Transit	0	205,907	233,522	249,435
<b>EXPENDITURE TOTALS</b>	<b>\$0</b>	<b>\$9,390,773</b>	<b>\$10,233,504</b>	<b>\$10,818,822</b>

## REVENUES

	FY 2002 ACTUAL	FY 2003 PROJECTED	FY 2004 ESTIMATED	FY 2005 ESTIMATED
Licenses and Permits	0	438,401	495,916	495,916
Charges for Services	0	4,778,732	5,056,798	5,459,947
Other Revenue	0	2,837,883	3,641,875	3,882,448
Transfers In	0	3,787,913	1,625,258	1,755,279
<b>REVENUE TOTALS</b>	<b>\$0</b>	<b>\$11,842,929</b>	<b>\$10,819,847</b>	<b>\$11,593,590</b>

## - NET COST -

	FY 2004	FY 2005
DEPARTMENT EXPENDITURES	10,233,504	10,818,822
PLUS: ALLOCATED COSTS	787,981	838,412
TOTAL EXPENDITURES	11,021,485	11,657,234
LESS: PROGRAM REVENUES	10,819,847	11,593,590
<b>NET COST</b>	<b>\$201,638</b>	<b>\$63,644</b>

# ENGINEERING DEPARTMENT

## AUTHORIZED POSITIONS

	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY2005
Director of Public Works	1	1	1	1	0	0	0
Director of Engineering	0	0	0	0	1	1	1
Deputy Director of Engineering	0	0	0	0	3	3	3
Deputy Director Public Works/City Engineer	1	1	1	1	0	0	0
Administrative Secretary	2	2	2	0	0	0	0
Administrative Services Manager	0	1	0	1	1	1	1
Assistant Engineer I/II	14	19	19	19	19	19	19
Assistant Surveyor I/II	1	2	2	2	2	2	2
Assistant Transit Coordinator	1	1	1	1	1	1	1
Building Projects Coordinator	0	0	1	1	0	0	0
Building Projects Manager	0	0	0	1	0	0	0
Building Projects Supervisor	1	1	1	2	0	0	0
Civil Engineer	10	11	11	12	11	12	12
Conservation Coordinator	1	0	0	0	0	0	0
Development Services Technician	0	1	1	2	2	2	2
Engineering Aide	1	1	1	1	1	1	1
Engineering Technician I/II	8	11	11	11	10	10	10
Engineering Technician III	0	2	2	2	1	1	1
Environmental Resource Manager	1	0	0	0	0	0	0
Fiscal Office Specialist	0	0	0	1	1	1	1
GIS Specialist	1.75	2	0	0	0	0	0
Land Surveyor	1	1	1	1	1	1	1
Maintenance Worker I/II	0	0	0	0	1	1	1
Office Specialist	0	0	0	2	1	1	1
Project Manager	0	1	0	0	0	0	0
Public Works Inspector I/II	5	9	9	9	9	9	9
Real Property Manager	0	0	0	0	1	1	1
Secretary	0	0	0	1	1	1	1
Senior Administrative Secretary	0	0	0	1	1	1	1
Senior Building Projects Manager	0	0	1	1	0	0	0
Senior Civil Engineer	5	6	6	5	2	1	1
Senior Fiscal Office Specialist	0	0	0	1	1	1	1
Senior Management Analyst	0	0	0	0	1	1	1
Senior Management Assistant	0	1	0	0	0	0	0
Senior Office Specialist	0	0	0	1	0	0	0
Senior Public Works Inspector	2	3	3	3	3	3	3
Senior Secretary	0	0	0	0	1	1	1
Signal System Engineer	1	1	1	1	1	1	1
Storm Water Compliance Inspector I/II	0	0	0	0	2	2	2
Survey Technician I/II	2	3	3	3	3	3	3
Traffic Devices Technician	2	3	3	3	3	3	3
Traffic Devices Technician Supervisor	1	1	1	1	1	1	1
Transit Coordinator	1	1	1	1	1	1	1
Transportation Engineer	0	0	1	1	1	1	1

## ENGINEERING DEPARTMENT

### AUTHORIZED POSITIONS

	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY2005
<i>Total Permanent FTE's</i>	63.75	86	84	93	88	88	88
<i>Total Hourly FTE's</i>	3.62	3.76	4.11	5.7	4.96	5	5
<i>Total FTE's</i>	67.37	89.76	88.11	98.7	92.96	93	93



# ENGINEERING

## MISSION STATEMENT • GOALS • OBJECTIVES AND MEASURES

**MISSION STATEMENT:** Provide the City of Chula Vista with high quality physical infrastructure and public facilities, through the design, construction, and oversight of street, storm drain and wastewater system programs, and through management of the Chula Vista Transit public transit system contract services, so that the City can function and remain economically strong and residents can live and work in a safe and viable community.

**GOAL:** Provide high quality, efficient and cost-effective professional services to the public and other departments as required.

**Objective:** *Respond to requests for service promptly.*

1. Provide construction inspection service within 24 hours of receipt of request.
2. Meet regularly with developers to discuss public works issues on proposed and ongoing land development projects.
3. Review tentative maps and provide comments to the Planning and Building Department within 30 days 100% of the time.
4. Review building permit applications within 2 days of receipt.

**Objective:** *Prepare quality, accurate and complete design plans, bid specifications and cost estimates for all City Capital Improvement Program (CIP) projects.*

Annual Measure	FY01 ACT.	FY02 ACT.	FY03 EST.	FY04 PROJ.	FY05 PROJ.
% of CIPs completed within the fiscal year on schedule	70%	70%	75%	75%	75%
% of awarded bids that are under the Engineer's estimate	80%	75%	80%	80%	80%

**GOAL:** Design, construct and repair City-owned infrastructure including streets and appurtenant facilities, sidewalks, curbs and gutters.

**Objective:** *Enhance traffic safety by providing for safe movement of users of the circulation system by maintaining surface quality and through the application of traffic control devices, street lighting, traffic signs, and other means.*

1. Conduct a nighttime survey every six months to check the street lighting and illuminated street signs.
2. Correct 100% of burned out traffic signal lamps and signal malfunctions within 2 hours of notification.

**Objective:** *Determine whether the City's traffic thresholds are being met and report the findings to the Growth Management Oversight Committee annually.*

**GOAL:** Manage and maintain the City's wastewater and storm drain systems and work closely with other sewer agencies regarding wastewater treatment and transportation.

**Objective:** *Monitor the capacity and condition of the City's sewer system and prepare recommendations for construction of new wastewater systems and for necessary rehabilitation and repair work.*

**Objective:** *Participate in the establishment of a new National Pollutant Discharge Elimination System municipal discharge permit and fully comply with all aspects of the permit.*

**GOAL:** Increase the quality and quantity of public transportation services in the most cost effective manner to provide a means of transportation for people without access to the automobile, and to offer a viable transportation alternative to the automobile.

**Objective:** *Continue an ongoing bus replacement program to ensure that the average life of a bus does not exceed 12-15 years.*

**Objective:** *Maintain or improve transit system efficiency and productivity by maintaining or exceeding total passengers per revenue mile and total passengers per revenue hour.*

Annual Measure	FY01 ACT.	FY02 ACT.	FY03 EST.	FY04 PROJ.	FY05 PROJ.
No. CVT passengers per revenue mile	2.50	2.45	2.48	2.50	2.60
Net subsidy per CVT passenger	\$0.90	\$0.72	\$0.75	\$0.72	\$0.70
Farebox recovery ratio	37.70%	47.00%	40.00%	47.00%	48.00%
No. CVT passengers per revenue hr	32.00	32.00	33.00	34.00	35.00